

Abstract of the Disclosure:

A method of producing a glass substrate for a mask blank has the steps of measuring a convex/concave profile of a surface of the glass substrate, controlling a flatness of the surface of the glass substrate to a value not greater than a predetermined reference value by specifying the degree of convexity of a convex portion present on the surface of the glass substrate with reference to a result of measurement obtained in the profile measuring step and executing local machining upon the convex portion under a machining condition depending upon the degree of convexity, and polishing, after the flatness control step, the surface of the glass substrate subjected to the local machining by the action of a machining liquid interposed between the surface of the glass substrate and a surface of a polishing tool without direct contact therebetween.